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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/747,174

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Daniel S. Sem

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EXAMINER

BORIN, MICHAEL L

ART UNIT

PAPER NUMBER

1631

DATE MAILED: 06/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/747,174

Applicant(s)

Sem et al.

Examiner

Michael Borin

Art Unit

1631



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claims 1-44 are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

Art Unit: 1631

### **Part III DETAILED ACTION**

Claims 1-44 are currently pending.

#### **Restriction Requirement**

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-10, drawn to method for identifying a pharmacocluster.
- II. Claims 11-18, drawn to method for identifying a conformation property of a ligand.
- III. Claims 19-23, drawn to method for identifying polypeptide pharmacofamilies.
- IV. Claims 24-32, drawn to method for identifying a member of a polypeptide pharmacofamily.
- V. Claim 33, drawn to method of modeling three-dimensional structure of a polypeptide.
- VI. Claims 34-36, drawn to method for constructing a ligand conformer.
- VII. Claim 37, drawn to method for constructing a pharmacophore model.
- VIII. Claim 38, drawn to method for identifying a binding compound.

Art Unit: 1631

IX-XVI. Claim 39, drawn to pharmacoclusters. The pharmacoclusters 1-8 recited in the claims, in the absence of a common structure, are divided into separate groups<sup>1</sup>.

XVII-XXIV. Claim 40, drawn to polypeptide families binding to a conformation of a dinucleotide-related molecule selected from a pharmacofamily. Polypeptide families are divided into separate groups according to pharmacofamilies 1-8<sup>1</sup>.

XXV-XXXII. Claim 41, drawn to polypeptide families binding to a dinucleotide-related molecule having a conformation selected from pharmacoclusters. Polypeptide families are divided into separate groups according to pharmacoclusters 1-8<sup>1</sup>.

XXXIII-XL. Claims 42-43, drawn to ligand conformer model. The models recited in the claims are divided into separate groups according to coordinates of models 1-8<sup>1</sup>.

XLI-XLVIII. Claim 44, drawn to pharmacophore model. The models recited in the claims are divided into separate groups according to coordinates of models 1-8<sup>1</sup>.

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<sup>1</sup> If elected, any of these groups will be a potential subject to further restriction requirement

Art Unit: 1631

The inventions are distinct, each from the other because of the following reasons:

Inventions I-VIII are related as independent and/or patentably distinct methods which are not connected in design, operation or effect. The methods either have different steps or modes of operation (e.g. Groups I and II, or II and VII), and/or they have different functions or effects (e.g., Groups I and VII), and/or they not disclosed as capable of use together (e.g., methods III and VII). (MPEP 806.04, MPEP 808.01).

Groups of methods of constructing models (Groups VI, VII) and models (Groups XXXIII-XLVIII) are related as process of making and product made. The inventions are distinct as the models of Groups XXXIII-XLVIII can be obtained by other molecular and computer modeling methods.

Products of Groups IX-XVI are structurally and functionally different products which are made by different methods and have different uses. The examination of the Groups will require different searches of the US Patents and scientific literature and would require consideration of different patentability issues.

Art Unit: 1631

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Applicant is advised that the response to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a diligently-filed petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(h).

Art Unit: 1631

**Species Requirement**

Election of species should be required prior to a search on the merits in all applications containing both species claims and generic or Markush claims.(MPEP 808.01(a))

Upon election of any single one of the Groups I-VIII from above the following election of species is hereby required for the initial search for examination on merits:

The claims of Group are individually or dependently directed to a plurality of disclosed patentably distinct species of ligands (such as those listed in claims 3,4) and dinucleotide-related molecules (such as those listed in claim 5), which encompass a variety of different compound species that require a burdensome classification, and/or bibliographic, manual and computer search. Accordingly, regardless of which group is elected, Applicant is required under 35 U.S.C. 121 to elect a single disclosed species (i.e., a single compound), even though the requirement is traversed. Applicant should include a chemical structure of the elected compound if not already contained in the specification.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, even though this requirement is traversed.

Art Unit: 1631

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

To be complete, a response to the election of species requirement should include a proper election along with a listing of all claims readable thereon, including any claims subsequently added. MPEP 809.02(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Borin whose telephone number is (703) 305-4506. Dr. Borin can normally be reached between the hours of 8:30 A.M. to 5:00 P.M. EST Monday to Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Mr. Michael Woodward, can be reached at (703) 308-4028. The fax telephone number for this group is (703) 305-3014.



Serial Number: 09/747174

Page 8

Art Unit: 1631

Any inquiry of a general nature or relating the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

June 14, 2002

mlb

**MICHAEL BORIN, PH.D**  
**PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read 'Michael Borin', is written over the printed name and title.